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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/781,677	02/20/2004	Kenichi Kitamura	500.43519X00	5539

			EXAMINER
24956	7590	04/20/2006	MYINT, DENNIS Y

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ART UNIT	PAPER NUMBER
2162	

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Please find below and/or attached an Office communication concerning this application or proceeding.

PTO-90C (Rev. 10/03)

	Application No.	Applicant(s)
Office Action Summary	10/781,677	KITAMURA ET AL.
	Examiner	Art Unit	
	Dennis Myint	2162	

-- *The MAILING DATE of this communication appears on the cover sheet with the correspondence address* --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE <u>3</u> MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1) ☒ Responsive to communication(s) filed on <u>20 February 2004</u>.

2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.

3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4) ☒ Claim(s) <u>1-4 and 6-19</u> is/are pending in the application.

　　4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5) ☐ Claim(s) _____ is/are allowed.

6) ☒ Claim(s) <u>1-4 and 6-19</u> is/are rejected.

7) ☐ Claim(s) _____ is/are objected to.

8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9) ☐ The specification is objected to by the Examiner.

10) ☒ The drawing(s) filed on <u>20 February 2004</u> is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.

　　Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

　　Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

　　a) ☒ All b) ☐ Some * c) ☐ None of:

　　　1. ☐ Certified copies of the priority documents have been received.

　　　2. ☐ Certified copies of the priority documents have been received in Application No. _____.

　　　3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

　　* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)

2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)

3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date <u>20 February 2004</u>.

4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.

5) ☐ Notice of Informal Patent Application (PTO-152)

6) ☐ Other: _____.

DETAILED ACTION

1.   Claims 1-4 and 6-19 have been examined.

Claim Objections

Claim 5 has been cancelled in the preliminary amendment. However, claims 6, 7,

and 8 still depend on claim 5. As such, said claims should be rewritten to reflect the

cancellation of claim 5.

Claim 7 is objected to because in Line 4, the claim recites, "if there is any not",

which renders the claim incomplete. The claim is given the broadest reasonable

interpretation to the best of his knowledge.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that

form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (e) the invention was described in (1) an application for patent, published under section 122(b), by
> another filed in the United States before the invention by the applicant for patent or (2) a patent
> granted on an application for patent by another filed in the United States before the invention by the
> applicant for patent, except that an international application filed under the treaty defined in section
> 351(a) shall have the effects for purposes of this subsection of an application filed in the United States
> only if the international application designated the United States and was published under Article 21(2)
> of such treaty in the English language. ·

1.   Claim 1-4, 6, 7, 8, 11-16, and 19 are rejected under 35 U.S.C. 102(e) as being

anticipated by Maurer III et al. (U.S. Patent Application Publication No. 2003/0065780).

As per claim 1 Maurer III is directed to a data processing method comprising

steps of:

generating a second database as a duplicate of a first database (Maurer III et al.,

Figure 3, "BCV" and "STD (e.g. DB Files)", Paragraph 0060, i.e. "such as database

transaction processing") allowing access from a program (Maurer III et al., Paragraph

0112, i.e. "a data storage system includes a storage array having logical volumes or

units that can be accessed by one or more clients via a switch." and "In the case where

the first logical unit is no longer accessible, such as due to disk failure, the storage array

can provide access to the copy of the first logical unit by the client by swapping the

logical unit accessed by the host.") and after completion of the generation, switching a

program access allowance from the first database to the second database (Maurer III et

al., Paragraph 0112, i.e. "swapping the logical unit" and Paragraph 0055, i.e. "Mirrors

can be "synchronized" in either direction (i.e., from the BCV to the standard or visa

versa)"),

after switching the program access allowance, storing a history of a processing of

the program to the second database as a processing history (Maurer III et al.,

Paragraph 0106, i.e. "... then the information related to the data may also be backed

up....." and "archives/redo logs") and reorganizing the first database (Note that when

program access (control) is switched from the first database, any operation could be

performed on the first database, while program access (control) is at the second

database, such as reorganization of the first database or, as Maurer III et al. teaches,

the storage of the first database might have been down.),

after completion of the reorganization of the first database, subjecting the first

database to the processing based on the processing history stored (Maurer III et al.,

Paragraph 0107-0109, i.e. "redo log files", "Control files contain information in the

Oracle database, including information that describes the instance where the data files

and log files reside." and "This is where information that will be used in a restore

operation is kept."), and

upon completion of the processing of the first database according to the

processing history stored, switching the program access allowance from the second

database to the first database (Maurer III et al., Paragraph 0112, i.e. "swapping the

logical unit" and Paragraph 0055, i.e. "Mirrors can be "synchronized" in either direction

(i.e., from the BCV to the standard or visa versa)").

Claim 2 is rejected on the same basis as claim 1.

Claim 3 is rejected on the same basis as claim1. Note that when program access

(control) is switched from the first database, any operation could be performed on the

first database, while program access (control) is at the second database, such as

reorganization of the first database or, as Maurer III et al. teaches, the storage of the

first database might have been down. Therefore, the limitation of "executing a

predetermined processing for the first database" of claim is covered by the Maurer III et

al. as applied to claim 1.

As per claim 4, Maurer III et al. is directed to a data processing method as

claimed in claim 3, wherein after switching the program access allowance from the first

database to the second database, the history of the processing of the program to the

second database is stored as a processing history and the predetermined processing is executed for the first database (Maurer III et al., Paragraph 0106, i.e. "... then the information related to the data may also be backed up....." and "archives/redo logs", Paragraph 0107-0109, i.e. "redo log files", "Control files contain information in the Oracle database, including information that describes the instance where the data files and log files reside." and "This is where information that will be used in a restore operation is kept." and Paragraph 0055, i.e. "Mirrors can be "synchronized" in either direction (i.e., from the BCV to the standard or visa versa).").

Referring to claim 6, Maurer III et al. is directed to a data processing, wherein upon completion of the second processing based on the processing history stored, to the first database, the program access allowance is switched from the second database to the first database (Maurer III et al., Paragraph 0112, i.e. "swapping the logical unit" and Paragraph 0055, i.e. "Mirrors can be "synchronized" in either direction (i.e., from the BCV to the standard or visa versa)").

Referring to claim 7, Maurer III et al. is directed to a data processing method, wherein if a predetermined condition is satisfied, the processing based on the stored processing history to the first data base is completed so that the second database is in a quiescent mode and if there is any not processed by the first database among the stored processing history, a processing based on the processing history not processed is executed to the first database (Maurer III et al., Paragraph 0106, i.e. "... then the information related to the data may also be backed up....." and "archives/redo logs", Paragraph 0107-0109, i.e. "redo log files", "Control files contain information in the

Oracle database, including information that describes the instance where the data files

and log files reside." and "This is where information that will be used in a restore

operation is kept." and Paragraph 0055, i.e. "Mirrors can be "synchronized" in either

direction (i.e., from the BCV to the standard or visa versa).").

Referring to claim 8, Maurer is directed to a data processing method as claimed

in claim 7, wherein the quiescent mode indicates a mode that temporary storage of

access requests is performed during access processing to the first database or the

second database by the program and storage in the first database or the second

database is stopped (Maurer III et al., Paragraph 0106, i.e. "... then the information

related to the data may also be backed up....." and "archives/redo logs", Paragraph

0107-0109, i.e. "redo log files", "Control files contain information in the Oracle database,

including information that describes the instance where the data files and log files

reside." and "This is where information that will be used in a restore operation is kept."

and Paragraph 0055, i.e. "Mirrors can be "synchronized" in either direction (i.e., from the

BCV to the standard or visa versa).").

Claim 11, 12, 13, 14, 15, 16   are rejected on the same basis as claim 3, 4, 6, 6,

7, 8, respectively.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all

obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

2.   Claim 9, 10, 17, and 19 are rejected under 35 U.S.C. 103(a) as being unpatentable over Maurer III et al. in view of Yanai et al.(U.S. Patent Number 5742792).

Referring to claim 9, Maurer II et a. as applied to claim 4 does not explicitly recite that the program processing to the second database and the predetermined processing to the first database are performed in parallel and concurrently. However, Yanai et al. teaches a method and system for remote data mirroring, wherein, in an active mode migration mode, host processing of a primary volume (the program processing to the first or second database) is concurrent with migration to a secondary volume (the predetermined processing to the first database (Yanai et al., Figure 14 and Figure 17, i.e. "migrating a volume concurrent with host access to the volume" in Column 6 Line 59-61, and "Abstract" of Yanai et al. specification).

At the time the invention was made, it would have been obvious to a person of ordinary skill in the art to combine the feature of allowing program access to a database while a restore/mirror/update is being performed on a different database, based on the restore log/history on the database which currently allows program access, as taught by Yanai et al. with the method and system of Maurer III et al. so that in the combined system the program processing to the second database and the predetermined processing to the first database are performed in parallel and concurrently. Note that the method and system of Maurer III et al. could perform mirror/duplicate operations in any direction. One would have been motivated to do so in order provide "a data processing system which automatically and asynchronously, with respect to a first host system, generates and maintains a back-up or "mirrored" copy of a primary storage device...." (Yanai et al., Column 2 Line 19-27).

Referring to claim 10, Maurer III et al. in view of Yanai et al. as applied to claim 9 above discloses the invention as claimed. Maurer III et al. in view of Yanai et al. is directed to a data processing method as claimed in claim 4, wherein when performing the processing based on the stored processing history to the first database, the processing is performed in parallel and concurrently by a plurality of programs assigned to the key value or key range contained in the processing history (Maurer III et al., Paragraph 0106, i.e. "... then the information related to the data may also be backed up....." and "archives/redo logs", Paragraph 0107-0109, i.e. "redo log files", "Control files contain information in the Oracle database, including information that describes the instance where the data files and log files reside." and "This is where information that

will be used in a restore operation is kept." and Paragraph 0055, i.e. "Mirrors can be

"synchronized" in either direction (i.e., from the BCV to the standard or visa versa).").

Particularly note that it is inherent in the archives/redo logs of Maurer III et al. that, if

there were a plurality of programs that performed procession, said plurality of programs

will be reflected the archives/redo log and, when the processing is performed in parallel

and concurrently (Column 6 Line 59-61, and "Abstract" of Yanai et al. specification),

said plurality of programs contained the said archives/redo log will certainly be

performed. It is well know in the art that, items in a processing history (archives/redo

log), such as said programs, are referenced using a key or a number or whichever

identification means available or desirable.

Claims 17 and 18 are rejected on the same basis as claims 9 and 10

respectively.

Conclusion

Any inquiry concerning this communication or earlier communications from the

examiner should be directed to Dennis Myint whose telephone number is (571) 272-

5629. The examiner can normally be reached on 8:30AM-5:30PM Monday-Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's

supervisor, John Breene can be reached on (571) 272-4107. The fax phone number for

the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the

Patent Application Information Retrieval (PAIR) system. Status information for

published applications may be obtained from either Private PAIR or Public PAIR.

Status information for unpublished applications is available through Private PAIR only.

For more information about the PAIR system, see http://pair-direct.uspto.gov. Should

you have questions on access to the Private PAIR system, contact the Electronic

Business Center (EBC) at 866-217-9197 (toll-free).

Dennis Myint   AU-2162

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VISORY PATENT EXAMINER